SECTION 08 31 19

SUBWAY CROSS-PASSAGE DOORS

PART 1 – GENERAL

1.01 SECTION INCLUDES

A. This Contract Specifications Section provides requirements regarding subway cross-passage doors.

B. Doors.

C. Track.

D. Load bar.

E. Wheels.

F. Door binders.

G. Counterweigh closure system.

H. Continuous head guide.

I. Pulls.

J. Finish.

1.02 RELATED SECTIONS

A. Section 09 91 00, Painting

1.03 MEASUREMENT AND PAYMENT

A. General: Separate measurement or payment will not be made for the work required under this Section. All costs in connection with the Work specified herein will be considered to be included or incidental to the Work of this Contract.

1.04 REFERENCE STANDARDS

A. ASTM International (ASTM):

1. ASTM A366 Specification for Steel, Carbon, Cold-Rolled Sheet, Commercial Quality

2. ASTM E152 Method for Fire Tests of Door Assemblies

B. California Code of Regulations:

1. Title 24, Part 2, California Building Code, Chapter 10, Section 1004 - Doors

C. National Fire Protection Association (NFPA):

1. NFPA 80 Fire Doors and Windows
2. NFPA 130

D. Steel Door Institute (SDI):

1. ANSI/SDI-100 Recommended Specifications for Standard Steel Doors and Frames
2. SDI-107 Hardware on Steel Doors (Reinforcement--Application)
3. SDI-111 Recommended Standard Details, Steel Doors and Frames
4. SDI-112 Galvanized Standard Steel Doors and Frames
5. SDI-117 Manufacturing Tolerances, Standard Steel Doors and Frames
6. SDI-118 Basic Fire Door Requirements
7. ANSI/SDI A123.1 Nomenclature for Steel Doors and Steel Door Frames

1.05 SUBMITTALS

A. Refer to Contract Specifications Section 01 33 00, Submittal Procedures, and Section 01 33 23, Shop Drawings, Product Data, and Samples, for submittal requirements and procedures.

B. Product Data: Submit manufacturer's product data for components.

C. Shop Drawings: Submit fully detailed Shop Drawings and installation drawings.

D. Engineering Calculations: Submit cyclic load calculations demonstrating that the doors and door components shall resist the maximum pressure differential for at least 10 million cycles.

1.06 QUALITY ASSURANCE

A. Manufacturing Standards: Comply with applicable requirements of ANSI/SDI-100.

B. Manufacturing Tolerances: Comply with applicable requirements of SDI-117.

C. Doors and Associated Hardware: Provide doors and hardware approved by the BART System Safety Department for a fire resistance rating of 1-1/2 hours. Comply with applicable requirements of ANSI/SDI-118. Classification shall be based on door-and-frame assemblies tested in accordance with ASTM E152.

D. Doors: Provide self-closing doors equipped with pull handles to allow opening from either side. The force required to open the door fully shall be in accordance with California Building Code, Section 1004, Doors.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Doors:

1. Cross-passage doors shall be full flush design, with sealed tops, galvanized steel faced, solid core fire doors, 1-3/4 inches thick, with face sheets of ASTM A366 cold-rolled, pickled and oiled, minimum 14 gage steel. Doors shall be reinforced with formed 1/8 inch steel channels extending full height of door. Reinforced channels shall be spaced approximately 4 inches on center and spot welded to the face sheets at three inches on center.

2. Faces of doors shall be flat with no joints, weld marks or bumps. Provide 1/8 inch steel channel completely around the door perimeter, welded to face at three inches on center.

3. Door construction, conforming to the requirements of Underwriters Laboratories, shall meet the required fire rating in accordance with NFPA 130. The hardware and other details need not meet these requirements.

4. Doors shall be furnished complete with all necessary hardware, including track, adjustable track brackets, load bar, hangers, trolleys, continuous head guide and stay rollers, front and rear door and wall binders, counterweight with enclosure, and all anchors for securing to the structure. All mounting hardware shall be stainless steel.

5. Door fabrication and construction shall comply with ANSI/SDI-100, SDI-107, SDI-111, SDI-112, SDI-117, SDI-118, and SDI-123.1 as applicable.

B. Track: Track shall be box type, galvanized 3/16 inch steel with a minimum capacity of 1,000 pounds. Joints in track shall be welded flush and smooth.

C. Load Bar: Heavy steel, with drop forged and heat-treated pendant. Connecting bolt shall be 1-1/4 inch heavy steel, set in an oversized hole in the load bracket. Load bar assembly shall allow for lateral and vertical adjustment.

D. Wheels: Minimum 2-1/8 inch diameter machine steel with heavy-duty ball bearings.

E. Door Binders: Front and rear door and wall binder shall be full height, and shall be incorporated for closed position.

F. Counterweight Closure System: Doors shall be equipped with a counterweight closure system with weight box and an anti-creep device. Counterweight system shall be drop forged. Weight box shall be made of galvanized steel, access to adjustments.

G. Continuous Head Guide: Fabricated from 3/16 inch galvanized bent steel overlapping rough opening.

H. Pulls: Provide pulls operable from either side. Furnish a latch to keep the door in an open position.

I. Finish: Surfaces shall be smooth and free from warps and buckles, with tight doors and miters neatly made. Doors shall be painted using exterior Paint System B as described in Contract Specification Section 09 91 00, Painting. Graphics and colors shall be as indicated on the BART Standard Plans CS61.

J. Door and door assembly shall be designed to resist a water column of plus 14 inches to minus seven inches.

K. Miscellaneous:

1. Fusible links shall not be provided.

2. Continuous floor guides shall not be used.

3. Furnish all necessary closures, filler members, reinforcing, and appurtenant members and accessories for doors.

PART 3 – EXECUTION

3.01 INSTALLATION

A. Doors shall be suspended from an overhead track, surface mounted as detailed.

B. Doors: Doors shall be hung by skilled workers. Fit accurately and hang plumb. After hanging, make adjustments, and then remove doors and hardware for finish painting and make final adjustments. The doors shall be adjusted to be self-closing and yet not exceed the opening pressure requirements of NFPA 130.

C. Finish Hardware:

1. Install accurately and securely without marking or defacing hardware or finish work. Hardware shall be fastened with machine screws or bolts. Sheet metal screws will not be permitted. Test hardware to assure correct alignment and operation. Finish hardware shall be fastened at all points where fasteners are indicated or required. Stainless steel expansion bolts shall be used when anchoring to concrete.

2. Provide hardware in satisfactory working order. Clean and polish.

D. Fire-Rated Doors and Frames: Installation of doors and frames, including hardware and operational characteristics, shall be in accordance with NFPA Standard No. 80, as applicable. Verify that doors and frames are labeled as indicated.

E. Prime Paint Touch-Up: Immediately after installation, touch up damaged galvanizing with the zinc rich primer.

F. Temporary Protection: Provide protective facings or coverings for doors and frames.

END OF SECTION 08 31 19